PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES RECONSTRUCTING PORTIONS OF THE TRAFFIC CONTROL SIGNAL AT US 1 (BALTIMORE AVE.) AND RHODE ISLAND AVENUE IN PRINCE GEORGES COUNTY DUE TO GEOMETRIC IMPROVEMENTS. EASTBOUND RHODE ISLAND AVENUE WILL BE REALIGNED OPPOSITE EWING ROAD. THE PROPOSED LANE CONFIGURATION FOR EASTBOUND RHODE ISLAND AVENUE WILL BE A SHARED THROUGH-LEFT AND A RIGHT-TURN LANE. THE EXISTING TWIN MAST ARM STRUCTURE IN THE SOUTHWEST QUADRANT WILL BE REPLACED WITH TWO SINGLE MAST ARM STRUCTURES IN THE SOUTHWEST AND SOUTHEAST QUADRANTS. ALL EXISTING YELLOW FACED VEHICULAR TRAFFIC SIGNAL HEADS WILL BE UPGRADED TO BLACK FACED LED. APS PEDESTRIAN FACILITIES WILL BE INSTALLED FOR THE NORTH, EAST AND WEST LEGS OF THE INTERSECTION. PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS AND SIGNS WILL BE INSTALLED FOR THE NORTH, EAST AND WEST LEGS. AN ALTERNATIVE PHASE WILL BE PROVIDED FOR THE NORTH LEG PEDESTRIAN CROSSINGS AND A CONCURRENT PHASE WILL BE PROVIDED FOR THE EAST AND WEST LEG PEDESTRIAN CROSSINGS. VIDEO DETECTION WILL BE INSTALLED FOR PRESENCE DETECTION ON US 1 AND FOR PRESENCE DETECTION ON EWING ROAD AND RHODE ISLAND AVENUE. INTERCONNECT TO THE NORTH WILL BE RE-ROUTED THROUGH NEW CONDUIT AND NEW INTERCONNECT TO THE SOUTH WILL BE INSTALLED. US 1 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA TEN-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH EXCLUSIVE LEFT-TURN PHASING FOR SOUTHBOUND MOVEMENTS AT US 1 AND EWING ROAD. EXCLUSIVE-PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR NORTHBOUND US 1 AT EWING ROAD AND FOR SOUTHBOUND US 1 AT RHODE ISLAND AVENUE. SIDE STREET SPLIT PHASING WILL REMAIN FOR RHODE ISLAND AVENUE AND EWING ROAD. AN ALTERNATIVE PEDESTRIAN PHASE IS PROPOSED ACROSS THE NORTH LEG OF THE INTERSECTION, AND A CONCURRENT PHASE IS PROPOSED ACROSS THE EAST AND WEST LEGS.

CONTROLLER REQUIREMENTS

THE FIRST BASE MOUNTED CABINET (BM-1) AT THE INTERSECTION OF US 1 AND MONTGOMERY ROAD OPERATES AS A MASTER CONTROLLER FOR THE INTERCONNECT SYSTEM FOR US 1 BETWEEN MONTGOMERY ROAD AND EWING ROAD.

THE SECOND BASE MOUNTED CABINET (BM-2) AT THE INTERSECTION OF US 1 AND MONTGOMERY ROAD OPERATES THE SIGNAL AT US 1 AND MONTGOMERY ROAD.

INSTALL A NEW EIGHT-PHASE FULLY ACTUATED TRAFFIC SIGNAL CONTROLLER, LOOP DETECTOR AMPLIFIER, 2-WIRE CENTRAL CONTROL UNIT AND ASSOCIATED HARNESSES IN A NEMA SIZE '6' BASE MOUNTED CABINET (BM-3). THE SHA SIGNAL SHOP WILL INSTALL THE VIDEO INTERFACE AND FOUR CHANNEL LOOP DETECTOR AMPLIFIERS WITHIN THE CABINET.

PHONE DROP

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE DROP LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

THE CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

Mr. Lee Starkloff
Assistant District Engineer - Traffic
Phone: 301-513-7318

Mr. Augie Rebish
Assistant District Engineer - Utility
Phone: 301-513-7350

Mr. Wayne Mowdy
Assistant District Engineer - Maintenance
Phone: 301-513-7304

Mr. Richard L. Daff Sr.
Chief, Traffic Operations Division
Phone: 410-787-7630

Mr. Edward Rodenhizer
Chief, SHA Traffic Signal Shop
Phone: 410-787-7650

The Power Company Representative is:
Potomac Electric Power Company
4061 Powder Mill Road, Suite 600
Calverton, Maryland 20705
Phone: 301-931-2880

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

ITEM NO	QUANTITY	DESCRIPTION
900000	2 EA	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
963010	2 EA	FOUR CHANNEL LOOP DETECTOR AMPLIFIER, RACKMOUNT
971017	1 EA	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT
973023	99 SF	SHEET ALUMINUM SIGNS
		1 EACH - R3-5(R) (30 IN. X 36 IN.) MAST ARM MOUNT
		8 EACH R10-4(1) (9 IN. x 12 IN.) POLE MOUNT
		8 EA D-3(1) (96 IN. x 16 IN.) MAST ARM MOUNT

EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

ITEM NO	QUANTITY	DESCRIPTION
NONE - ALL REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR		

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

ITEM NO	QUANTITY	DESCRIPTION
120500	1 LS	MAINTENANCE OF TRAFFIC
203030	10 CY	TEST PIT EXCAVATION
585412	600 LF	12 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
585424	195 LF	24 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
800000	1 LS	REMOVE AND DISPOSE OF EXISTING TRAFFIC SIGNAL EQUIPMENT
800000	100 LF	PULL AND RE-ROUTE 12-PAIR COMMUNICATION CABLE, JELLY FILLED (NO. 19 AWG)
800000	1 EA	2-WIRE CENTRAL CONTROL UNIT
800000	9 EA	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
800000	8 EA	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	8 EA	AUDIBLE/TACTILE PEDESTRIAN PUSH BUTTON
801004	15 CY	CONCRETE FOR SIGNAL FOUNDATION
801706	[1] 35 SF ~~15 SF~~	REMOVE SIGNS FROM EXISTING OVERHEAD STRUCTURE
802501	1000 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805135	245 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805140	200 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805155	750 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
805160	10 LF	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
807202	1 EA	METERED SERVICE PEDESTAL
810550	1 EA	MICROLOOP PROBE, 500 FOOT LEAD IN CABLE
811001	6 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
811002	[1] 4 EA ~~5 EA~~	REMOVE ELECTRICAL HANDHOLE
813015	99 SF	INSTALL OVERHEAD SIGN
816001	6 EA	VIDEO DETECTION CAMERA
816005	[1] 2 EA ~~4 EA~~	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
816010	[1] 4 EA ~~2 EA~~	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818010	[1] 8 EA ~~7 EA~~	14 FOOT BREAKAWAY PEDESTAL POLE
818030	1 EA	STEEL POLE WITH A SINGLE 38 FOOT MAST ARM
[1] ~~818036~~	~~1 EA~~	~~STEEL POLE WITH A SINGLE 50 FOOT MAST ARM~~
822001	700 LF	12-PAIR COMMUNICATION CABLE, SELF-SUPPORTING (OVERHEAD)
831010	1 EA	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
837001	5 EA	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
860284	62 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
[1] 860292	1 EA	**CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE**
861104	1450 LF	ELECTRICAL CABLE - 2-CONDUCTOR (ALUMINUM SHIELDED)
861105	1800 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	[1] 2250 LF ~~2000 LF~~	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	[1] 4625 LF ~~4000 LF~~	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	50 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC
862102	100 LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)
866104	1 EA	20 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
871117	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	US 1 AT RHODE ISLAND AVE	US 1 AT EWING ROAD
PHASE 1 + 5	R	R	R	R	R	~~G~~	~~G~~	G	G	~~G~~ G	~~G~~ G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 5 CHANGE	R	R	R	R	R	~~Y~~	~~Y~~	G	G	~~Y~~ G	~~Y~~ G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 1 + 6	G	G	G	G	G	~~R~~	~~R~~	G	G	G	G	G	R	R	R	R	R	R	R	R	W	W	W	W	W	W	DW	DW		
PHASE 1 + 6 PED CLEARANCE	G	G	G	G	G	~~R~~	~~R~~	G	G	G	G	G	R	R	R	R	R	R	R	R	FDW	FDW	FDW	FDW	FDW	FDW	DW	DW		
PHASE 1 + 6 CHANGE	G	G	G	G	G	~~R~~	~~R~~	Y	Y	G	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 1 + 6 / PHASE 2 + 6	G	G	~~G~~ G	~~G~~ G	G	~~R~~	~~R~~	R	R	G	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 1 + 6 CHANGE / PHASE 2 + 6 CHANGE	Y	Y	~~G~~ G	~~G~~ G	G	~~R~~	~~R~~	R	R	Y	Y	Y	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 3 / PHASE 2 + 6	R	R	~~G~~ G	~~G~~ G	G	~~R~~	~~R~~	R	R	R	R	R	R	R	R	G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 3 CHANGE / PHASE 2 + 6 CHANGE	R	R	~~Y~~ Y	~~Y~~ Y	Y	~~R~~	~~R~~	R	R	R	R	R	R	R	R	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 1 + 5 / PHASE 4	R	R	R	R	R	~~R~~	~~R~~	R	R	~~G~~ G	~~G~~ G	G	R	R	R	R	R	G ~~G~~	~~G~~ G	G	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 1 + 5 / PHASE 4 CHANGE	R	R	R	R	R	~~R~~	~~R~~	R	R	~~G~~ G	~~G~~ G	G	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 1 + 5 / PHASE 4 ALT	R	R	R	R	R	~~R~~	~~R~~	R	R	~~G~~ G	~~G~~ G	G	R	R	R	R	R	G ~~G~~	~~G~~ G	G	DW	DW	DW	DW	DW	DW	W	W		
PED CLEARANCE	R	R	R	R	R	~~R~~	~~R~~	R	R	~~G~~ G	~~G~~ G	G	R	R	R	R	R	G ~~G~~	~~G~~ G	G	DW	DW	DW	DW	DW	DW	FDW	FDW		
PHASE 1 + 5 / PHASE 4 ALT CHANGE	R	R	R	R	R	~~R~~	~~R~~	R	R	~~G~~ G	~~G~~ G	G	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 1 + 5 / PHASE 8	R	R	R	R	R	~~R~~	~~R~~	R	R	~~G~~ G	~~G~~ G	G	G	~~G~~ G	G	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW		
PHASE 1 + 5 / PHASE 8 CHANGE	R	R	R	R	R	~~R~~	~~R~~	R	R	~~G~~ G	~~G~~ G	G	Y	Y	Y	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW		
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/RA	FL/RA	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK		

[1] RED LINE REVISION 9/20/2006

SHA
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
US 1 (BALTIMORE AVENUE) AT RHODE ISLAND AVENUE

GENERAL INFORMATION - 01

SCALE NONE DATE 12/2005 CONTRACT NO. PG2555187

DESIGNED BY SDY
DRAWN BY SDY
CHECKED BY BAB
F.A.P. NO. SEE TITLE SHEET

COUNTY PRINCE GEORGE'S
LOGMILE 16000107.42
T.I.M.S. NO. H460
TOD NO.

DRAWING NO. TS-1057B OF | SHEET NO. 10 OF 13

STV Incorporated
engineers /architects /planners /scientists /construction managers
7125 Ambassador Road Baltimore, MD 21244-2722 (410) 944-9112

BY: WEAVERCC

PLOTTED: Wednesday, September 27, 2006 AT 01:04 PM
FILE: I:\PROJECTS\0312121\0312121_0008\Drawings\TRA\Traffic\pSG-P002_us1.dgn